

Catalyst Replacement Task Description

January 2000

- a. The contractor shall provide the labor, materials, and equipment for the installation of a sample port on the dilution exhaust stack for the catalyst test bench, downstream of sample port used for the emissions test. The sample port for the catalyst bench shall be the same as used for emission testing.
- b. The contractor shall provide the labor, materials, and equipment for the installation of serial communications between the contractor's system and the catalyst test bench system. Serial communications operating at 9600 baud with 8 data bits, 1 stop bit, and parity is none.
- c. The waiver lane software shall automatically initialize the catalyst test at the end of a failing I/M test. The initialization will produce the following events:

- 1) maintain dynamometer loading and CVS flow used for the emissions test throughout the catalyst test.
- 2) will send the following information to the catalyst bench system: I/M sequence number, vehicle identification number (VIN), license plate number, model year, make, style.
- 3) will generate an analog speed display on the console monitor, which displays the vehicle speed on the dynamometer. The speed display will be centered at 40 mph with a ± 2.5 mph allowable speed tolerance for the test and will prompt the driver to speed up or slow down if the vehicle is operating outside the allowable speed tolerance. The speed display shall be maintained on the console monitor until the catalyst bench system communicates with the waiver lane system with results of test. Keyboard selection must be available on the waiver lane system to bypass and abort the catalyst test.
- 4) will receive the following information from the catalyst bench system: A test prefix which conforms to the following:

Catalyst Test Not Required (catalyst test removed from waiver process)

- "A" - No catalyst
- "B" - Idle only I/M test
- "C" - Nonrepairable functional defects
- "D" - Technician determination

Catalyst Test Not Performed (continue waiver process)

- "E" - Improper Air/Fuel control
- "F" - Repairable functional defects
- "G" - Technician determination

Catalyst Test Performed (test completed, test values will follow)

- "H" - Performed conditional catalyst test
- "T" - Performed catalyst test

- d. When the waiver lane system receives the prefix "A" thru "G", the catalyst test is removed from waiver consideration and the waiver process continues. The prefix will be automatically stored in vehicle history file.
- e. When the waiver lane system receives the prefix "H" thru "T", the following test data will

be included: the catalyst efficiency in percent, the catalyst efficiency standard, and the test status; “P”ass, “F”ail, “I”nconclusive Fail. If the test status is a “P”ass or “I”nconclusive fail, the waiver process continues. If the test prefix is a “F”ail, the waiver is denied. The prefix and test data will be automatically stored in vehicle history file.

f. The waiver lane software will print the following information on the Vehicle Inspection Report (VIR) for each prefix.

- “A” - “Cat Test Not Required - No Catalyst”
- “B” - “Cat Test Not Required - Idle only I/M Test”
- “C” - “Cat Test Not Required - Excessive Functional Defects”
- “D” - “Cat Test Not Required - Technician Determination”
- “E” - “Cat Test Not Performed - Improper A/F Control”
- “F” - “Cat Test Not Performed - Repair Required”
- “G” - “Cat Test Not Performed - Technician Determination”
- “H” - “Catalyst Efficiency Standard = xx%, Catalyst Efficiency = xx%”, and test status of either “Pass” or “Inconclusive Fail - Improper A/F Control” depending on catalyst efficiency values. (eg - Catalyst Efficiency Standard = 75%, Catalyst Efficiency = 85%, Pass)
- “I” - “Catalyst Efficiency Standard = xx%, Catalyst Efficiency = xx%”, and test status of either “Pass” or “Fail” depending on catalyst efficiency values. If “Fail” is test status, in Equipment or Pressure Inspection Results section of VIR, Fail shall be printed in result column for catalytic converter. In waiver denial justification table, the justification “Replace Ineffective Catalytic Converter” will be added (only for vehicles which fail the catalyst test).